Lesson Plan: 18 Weeks (From January 2018 to April 2018)
Name of Assistant Professor: Ms. Shweta Dhawan
Class : B.Sc(IV sem)
Subject: Mathematics
Paper: Programming in C and Numerical Methods

Week 1 Chapter 1	Solution of algebraic and transcendental equations
Week 1,Day 1 01/01/2018	**An introduction** to algebraic and transcendental equations,
Week 1,Day 2 02/01/2018	Introduction to Numerical methods to find the solution of algebraic and transcendental equations Bolzano Bisection method and examples to find a real approximate root of a equation by using this method
Week 1,Day 3 03/01/2018	Regula falsi method and examples to find a real approximate root of a equation by using this method, the concept of order of convergence and the order of convergence of Regula falsi method
Week 1,Day 4 04/01/2018	Secant method and examples to find a real approximate root of a equation by using this method
Week 1,Day 5 05/01/2018	Holiday
Week 1,Day 6 06/01/2018	Newton Raphson method and examples to find a real approximate root of a equation by using this method
Week 2	
Week 2,Day 1 08/01/2018	Order of convergence of Newton Raphson method
Week 2,Day 2 09/01/2018	Comparison of all above iterative methods on the basis of order of convergence
Week 2,Day 3 10/01/2018	Examples to find square root, cube root , pth root , reciprocal of a number using Newton Raphson method
Week 2,Day 4 11/01/2018	Discussion on students problems regarding previous lectures
Week 2,Day 5 12/01/2018	Test
Week 2,Day 6 13/01/2018	Lohri Celebration
Week 3	Chapter 2 : Simultaneous linear algebraic equations
Week 3,Day 1 15/01/2018	Introduction to simultaneous linear algebraic equations
Week 3,Day 2 16/01/2018	Gauss elimination method and related examples
Week 3,Day 3 17/01/2018	Gauss Jordan method and related examples
Week 3,Day 4 18/01/2018	Triangularisation method and related examples
Week 3,Day 5	Triangularisation method and related examples…continued

19/01/2018	Crout 's methods and related examples
Week 3,Day 6 20/01/2018	Crout 's methods and related examples
Week 4	
Week 4,Day 1 22/01/2018	Holiday Basant Panchmi
Week 4,Day 2 23/01/2018	Cholesky decomposition method and related examples
Week 4,Day 3 24/01/2018	Jacobi method and and related examples
Week 4,Day 4 25/01/2018	Jacobi method and and related examples…continued
Week 4,Day 5 26/01/2018	Gauss seidal method and related examples
Week 4,Day 6 27/01/2018	Gauss seidal method and related examples…continued
Week 5	
Week 5,Day 1 29/01/2018	Relaxation method
Week 5,Day 2 30/01/2018	Examples based on Relaxation method
Week 5,Day 3 31/01/2018	RaviDas Jayanti
Week 5,Day 4 01/02/2018	Examples based on Relaxation method…continued
Week 5,Day 5 02/02/2018	Students problems on the above topics
Week 5,Day 6 03/02/2018	Class Test
Week 6	Computers : A general introduction
Week 6,Day 1 05/02/2018	Programmer model of a computer
Week 6,Day 2 06/02/2018	Algorithms
Week 6,Day 3 07/02/2018	Flow charts
Week 6,Day 4 08/02/2018	Introduction to programming language C
Week 6,Day 5 09/02/2018	C-character set, keywords, constant and its types, Escape sequence
Week 6,Day 6 10/02/2018	Maharishi Dayanand Jyanti
Week 7	Data types

Week 7,Day 1 12/02/2018	Data types..continued
Week 7,Day 2 13/02/2018	Maha Shivratri
Week 7,Day 3 14/02/2018	Printf statements, scanf statements, new line character
Week 7,Day 4 15/02/2018	Operators and expressions
Week 7,Day 5 16/02/2018	Operators and expressions…continued
Week 7,Day 6 17/02/2018	Operators and expressions…continued
Week 8	
Week 8,Day 1 19/02/2018	Decision control structure
Week 8,Day 2 20/02/2018	Decision statements
Week 8,Day 3 21/02/2018	Logical statements
Week 8,Day 4 22/02/2018	Conditional statements
Week 8,Day 5 23/02/2018	Some C programs using above conditional statements
Week 8,Day 6 24/02/2018	Introduction of counter control and Sentinel controlled loops
Week 9	
Week 9,Day 1 26/02/2018	Loops continued
Week 9,Day 2 27/02/2018	Loops continued
Week 9,Day (3-6) (28/02/2018- 03/03/2018)	Holidays
Week 10	Some C programs using loops
Week 10,Day 1 05/03/2018	Functions
Week 10,Day 2 06/03/2018	Functions continued
Week 10,Day 3 07/03/2018	Local global variables
Week 10,Day 4 08/03/2018	Recursion
Week 10, Day 5 09/03/2018	Some C programs using functions
Week 10,Day 6 10/03/2018	Some C programs using functions

Week 11	
Week 11, Day 1 12/03/2018	Preprocessors
Week 11, Day 2 13/03/2018	Preprocessors…continued
Week 11, Day 3 14/03/2018	Arrays
Week 11,Day 4 15/03/2018	One dimentional and two dimentional arrays
Week 11,Day 5 16/03/2018	Declaration and initialization of array
Week 11,Day 6 17/03/2018	Passing arrays to function
Week 12	
Week 12,Day 1 19/03/2018	Some programs using arrays
Week 12,Day 2 20/03/2018	Strings
Week 12,Day 3 21/03/2018	String operators
Week 12,Day 4 22/03/2018	Structure definition
Week 12,Day 5 23/03/2018	Use of structure in arrays
Week 12,Day 6 24/03/2018	Pointers
Week 13	
Week 13,Day 1 26/03/2018	Pointers and arrays, Pointers and functions
Week 13,Day 2 27/03/2018	Test
Week 13,Day 3 28/03/2018	Practicals
Week 13,Day 4 29/03/2018	Holiday
Week 13,Day 5 30/03/2018	Practicals

Week 13,Day 6 31/03/2018	Practicals
Week 14	
Week 14,Day 1 02/04/2018	Practicals
Week 14,Day 2 03/04/2018	Practicals
Week 14,Day 3 04/04/2018	Practicals
Week 4,Day 4 05/04/2018	Practicals
Week 14,Day 5 06/04/2018	Practicals
Week 14,Day 6 07/04/2018	Practicals
Week 15	
Week 15,Day 1 09/04/2018	Practicals
Week 15,Day 2 10/04/2018	Practicals
Week 15,Day 3 11/04/2018	Practicals
Week 15,Day 4 12/04/2018	Practicals
Week 15,Day 5 13/04/2018	Practicals
Week 15,Day 6 14/04/2018	Baisakhi ,Ambedkar jayanti
Week 16	
Week 16,Day 1 16/04/2018	Practicals
Week 16,Day 2 17/04/2018	Practicals
Week 16,Day 3 18/04/2018	Practicals
Week 16,Day 4 19/04/2018	Practicals
Week 16,Day 5 20/04/2018	Practicals
Week 16,Day 6 21/04/2018	Practicals
Week 17	

Week 17,Day 1 21/04/2018	Practicals
Week 17,Day 2 23/04/2018	Practicals
Week 17,Day 3 24/04/2018	Revision of Syllabus
Week 17,Day 4 25/04/2018	Revision of Syllabus
Week 17,Day 5 26/04/2018	Revision of Syllabus
Week 18	
Week 18,Day 1 27/04/2018	Revision of Syllabus
Week 18,Day 2 28/04/2018	Revision of Syllabus

Lesson Plan

Name Of Assistant Professor: Mrs. Shweta Dhawan

Class And Section: BSc. / BA III

Subject Lesson Plan: 17 Weeks (From January 2018 To April 2018)

Week 1	**VECTOR SPACE**
Week 1,Day 1 01/01/2018	Definition Of Vector Space , Internal And External Binary Operations, Vectors In IR^n , Examples Of Vector Space
Week 1,Day 2 02/01/2018	Examples Of Vector Space Continued
Week 1,Day 3 03/01/2018	Properties Of Vector Space, Subspaces, Theorems Of Vector Subspace
Week 1,Day 4 04/01/2018	Theorems Continued
Week 1,Day 5 05/01/2018	Holiday Guru Gobind Singh Birthday
Week 1,Day 6 06/01/2018	Examples Of Subspaces
Week 2	**SUB SPACE OF A VECTOR SPACE**
Week 2,Day 1 08/01/2018	Linear Sum Of Subspaces, Theorem On Linear Sum, Subspace Generated By A Set
Week 2,Day 2 09/01/2018	Direct Sum Of Subspaces, Disjoint Subspaces, Examples Based On Direct Sum And Disjoint Subspace
Week 2,Day 3 10/01/2018	Revision Of Vector Space & Subspaces
Week 2,Day 4 11/01/2018	Basis And Dimension; Linear Combination Of Vectors, Linear Dependence And Independence Of Vectors, Theorems Based On Linear Dependence And Independence Of Vectors.
Week 2,Day 5 12/01/2018	Theorems Continued & Examples
Week 2,Day 6 13/01/2018	Lohri Celebration
Week 3	**BASIS AND DIMENSION**
Week 3,Day 1 15/01/2018	Spanning Sets, Linear Span, Finitely Generated Vector Spaces
Week 3,Day 2 16/01/2018	Theorems On Smallest Subspaces Of A Vector Spaces, Examples Based On Linear Span
Week 3,Day 3 17/01/2018	Basis Of A Vector Space, Ordered Basis
Week 3,Day 4 18/01/2018	Existence Theorem And Theorems On Basis And Dimension
Week 3,Day 5 19/01/2018	Maximal Linearly Independent Set, Minimal Generating Set

Week 3,Day 6 20/01/2018	Dimensions Of A Vector Space, Extension Theorem
Week 4	**COMPLEMENTARY SUBSPACE**
Week 4,Day 1 22/01/2018	Examples Based On Above Topics
Week 4,Day 2 23/01/2018	Identical Spaces, Theorem (Dimension Of Linear Sum)
Week 4,Day 3 24/01/2018	Dimension Of Direct Sum, Complementary Subspace
Week 4,Day 4 25/01/2018	Examples Based On Complementary Subspace.
Week 4,Day 5 26/01/2018	Republic Day
Week 4,Day 6 27/01/2018	Group Discussions On Topic Basis And Dimension
Week 5	**QUOTIENT SPACE**
Week 5,Day 1 29/01/2018	Dimension Of Quotient Space And Its' Theorems
Week 5,Day 2 30/01/2018	Examples On Quotient Space
Week 5,Day 3 31/01/2018	Ravidas Jayanti
Week 5,Day 4 01/02/2018	Linear Transformation; Vector Space Homomorphism , Properties Of Linear Transformation
Week 5,Day 5 02/02/2018	Examples Based On Linear Transformation
Week 5,Day 6 03/02/2018	Vector Space Isomorphism, Equality Of Two Linear Transformation, Theorems Based On Linear Transformation
Week 6	**RANK AND NULLITY**
Week 6,Day 1 05/02/2018	Some Examples On Vector Space Isomorphism
Week 6,Day 2 06/02/2018	To Find Linear Transformation T And Revision
Week 6,Day 3 07/02/2018	Test Of Basis And Dimension
Week 6,Day 4 08/02/2018	Rank And Nullity; Introduction Of Null Spaces Or Kernel Of A Linear Transformation, Range Or Image Of A Linear Transformation, Theorems Based On Null Space And Range Space
Week 6,Day 5 09/02/2018	Fundamental Theorem Of Vector Space Homomorphism, Rank And Nullity Of A Linear Transformation
Week 6,Day 6 10/02/2018	Maharishi Dayanand Jyanti

Week 7	**LINEAR TRANSFORMATION**
Week 7,Day 1 12/02/2018	Sylvester's Law, Examples Based On Rank And Nullity
Week 7,Day 2 13/02/2018	Maha Shivratri
Week 7,Day 3 14/02/2018	Algebra Of Linear Transformation; Sum Of Linear Transformation, Compositon Of Two Linear Transformation, Theorems Based On Composition Of Two Linear Transformation.
Week 7,Day 4 15/02/2018	Examples Based On Composition Of Two Linear Transformation
Week 7,Day 5 16/02/2018	Singular And Non-Singular Transformation
Week 7,Day 6 17/02/2018	Theorems On Singular And Non-Singular Transformations
Week 8	**MATRIX OF A LINEAR TRANSFORMATION**
Week 8,Day 1 19/02/2018	Examples Based On Singular And Non-Singular Transformations, Invertible Linear Transformation
Week 8,Day 2 20/02/2018	Theorems And Examples Based On Invertible Linear Transformation.
Week 8,Day 3 21/02/2018	Matrix Of A Linear Transformation; Introduction Of Co-Ordinate Vector, Matrix Of A Linear Transformation, Relative To Ordered Basis, Matrix Of Linear Transformation With Respect To The Standard Basis
Week 8,Day 4 22/02/2018	Matrices Of Identity And Zero Transformations
Week 8,Day 5 23/02/2018	Examples Of Matrix Of A Linear Transformation Relative To Ordered Basis
Week 8,Day 6 24/02/2018	Change Of Basis And Examples Related To The Topic
Week 9	**DUAL SPACE**
Week 9,Day 1 26/02/2018	Introduction Vector Space Of All Linear Transformation, Theorems On Dual Space
Week 9,Day 2 27/02/2018	Examples Of Dual Basis
Week 9,Day 3 28/02/2018	Theorems On Bi-Dual Or Double Dual Of A Vector Space, Annihilator
Week 9,Day (4-6) (01/03/2018-03/03/2018)	Holidays
Week 10	**EIGEN VALUES AND EIGEN VECTORS**
Week 10,Day 1 05/03/2018	Theorems On Annihilator, Annihilator Of An Annihilator
Week 10,Day 2	Examples On Annihilator

06/03/2018	
Week 10,Day 3 07/03/2018	Eigen Values And Eigen Vectors; Introduction Of Eigen Values And Eigen Vectors Of A Linear Transformation, Eigen Space Characteristics Polynomial Of Linear Transformation.
Week 10,Day 4 08/03/2018	Theorems On Eigen Values
Week 10, Day 5 09/03/2018	Examples On Eigen Vectors And Eigen Values
Week 10,Day 6 10/03/2018	Similar Matrices, Characteristics Of Polynomial, Some Theorems On Eigen Values, Eigen Vector
Week 11	**DIAGONALISATION, CHARACTERISTIC POLYNOMIAL AND MINIMAL POLYNOMIAL**
Week 11, Day 1 12/03/2018	Diagonalization, Diagonizable Matrix, Example On Diagonal Matrix
Week 11, Day 2 13/03/2018	Test On Linear Transformation And Rank & Nullity
Week 11, Day 3 14/03/2018	Minimal Polynomial; Relation Between Characteristic Polynomial And Minimal Polynomial
Week 11,Day 4 15/03/2018	Find Characteristic Polynomial And Minimal Polynomial For Transformation
Week 11,Day 5 16/03/2018	Revision Of Eigen Values And Eigen Vectors, Revision Of Similar Matrices And Characteristic Polynomial
Week 11,Day 6 17/03/2018	Inner Product Spaces; Definition Of Inner Product Spaces, Examples On Inner Product Spaces
Week 12	**INNER PRODUCT SPACE**
Week 12,Day 1 19/03/2018	Norm Of A Vector, Cauchy Schwarz Inequality
Week 12,Day 2 20/03/2018	Triangle Inequality, Parallelogram Law
Week 12,Day 3 21/03/2018	Some Examples By Using Schwarz Inequality
Week 12,Day 4 22/03/2018	Normed Linear Space, Orthogonal Vector And Orthogonal Complement
Week 12,Day 5 23/03/2018	Some Theorems On Orthogonal Set Of Non-Zero Vectors
Week 12,Day 6 24/03/2018	Orthogonal Complement
Week 13	**ORTHOGONAL COMPLEMENT**

Week 13,Day 1 26/03/2018	Definition Of Orthogonal Complement And Orthogonal Complement Of Orthogonal Complement
Week 13,Day 2 27/03/2018	Theorems On Orthogonal Complement
Week 13,Day 3 28/03/2018	Examples On Orthogonal Sets
Week 13,Day 4 29/03/2018	Holiday
Week 13,Day 5 30/03/2018	Orthonormal Set, Theorems On Orthonormal Set Of Vectors In An Inner Product Space
Week 13,Day 6 31/03/2018	Bessel's Inequality, Theorems On Finite Dimension Vector Space
Week 14	**GRAM-SCHMIDT ORTHOGANALIZATION PROCESS AND EXAMPLES**
Week 14,Day 1 02/04/2018	Gram-Schmidt Orthoganalization Process
Week 14,Day 2 03/04/2018	To Find An Orthonormal Basis Of Vector By Gram-Schmidt Orthoganalization Process
Week 14,Day 3 04/04/2018	Direct Sum Of Sub-Space And Its' Complement
Week 4,Day 4 05/04/2018	Orthogonal Projection And Its' Theorem
Week 14,Day 5 06/04/2018	Revision Of Inner Product Spaces And Norm
Week 14,Day 6 07/04/2018	Revision Of Orthogonal Vector And Orthogonal Complement
Week 15	**LINEAR OPERATORS**
Week 15,Day 1 09/04/2018	Revision Of Orthonormal Set And Gram-Schmidt Theorem
Week 15,Day 2 10/04/2018	Linear Operators On Inner Product Spaces
Week 15,Day 3 11/04/2018	Introduction Of Adjoint Operator, Self Adjoint Operator, Euclidean Space, Unitary Space
Week 15,Day 4 12/04/2018	Some Important Concepts Of Normal Operator, Positive Operator, Positive Definite Operator, Inner Product Isomorphism.
Week 15,Day 5 13/04/2018	Theorems On Linear Operator
Week 15,Day 6 14/04/2018	Baisakhi , Ambedkar Jayanti
Week 16	Continued **LINEAR OPERATORS**

Week 16,Day 1 16/04/2018	Theorems On Self Adjoint Operator
Week 16,Day 2 17/04/2018	Theorems On Symmetric And Skew-Symmetric Operator
Week 16,Day 3 18/04/2018	Theorems On Hermition Operators And Unitary
Week 16,Day 4 19/04/2018	Isometric Isomorphism
Week 16,Day 5 20/04/2018	Normal Operator
Week 16,Day 6 21/04/2018	Examples Based On Adjoint Operator, Self Adjoint Operator, Symmetric And Skew-Symmetric Operator
Week 17	**REVISION AND TESTS**
Week 17,Day 1 21/04/2018	Theorems Continued
Week 17,Day 2 23/04/2018	Revision Of Adjoint Operator, Self Adjoint Operator, Symmetric And Skew-Symmetric Operator
Week 17,Day 3 24/04/2018	Test On Adjoint Operator, Self Adjoint Operator, Symmetric And Skew-Symmetric Operator
Week 17,Day 4 25/04/2018	Revision Of Hermition Operators And Unitary, Normal Operator
Week 17,Day 5 26/04/2018	Test Of Hermition Operators And Unitary, Normal Operator
Week 17,Day 6 27/04/2018	Group Discussion On The Topic Inner Product Space And Linear Operators

KVA DAV COLLEGE FOR WOMEN,KARNAL

Name of the Assistant / Associate Professor : **Ms. Manju Sharma**

Class and Section : B.A. /B.Sc.-I

Mathematics Lesson Plan (from January 2018 to April 2018)

Week 1 Chapter : **1**
Week 1, day 1, 01/01/2018 **Chapter 1: Exact Differential Equations** **Definition of Differential Equations ad its types, Geometrical meaning of Differential Equations.**
Week 1, day 2, 02/01/2018 **Exact Differential Equations and its solution (definition), Related Theorems and examples.**
Week 1, day 3, 03/01/2018 **Definition of integrating factor and examples based on it.**
Week 1, day 4, 04/01/2018 **Finding integrating factor by inspection, Exercise and Problems.**
Week 1, day 5, 05/01/2018 **Guru Govind Singh Jayanti**
Week 1, day 6, 06/01/2018 **Integrating factor for homogeneous Differential Equations and related examples.**
Week 2 Chapter : **1**
Week 2, day 1, 08/01/2018 **Exercise and Problems.**
Week 2, day 2, 09/01/2018 **Rules for finding integrating factor for different type of Differential Equations.**
Week 2, day 3, 10/01/2018 **Examples based on solution of different type of Differential Equations.**
Week 2, day 4, 11/01/2018 **Exercise and Problems.**
Week 2, day 5, 12/01/2018 **Solution of Exact Differential Equations in some particular cases and related examples.**
Week 2, day 6, 13/01/2018 **Exercise and Problems.**
Week 3 Chapter : **2**
Week 3, day 1, 15/01/2018 **Chapter 2: Equations of First Order and Higher Degree** **Introduction to Equations of First Order and Higher Degree and related terms.**
Week 3, day 2, 16/01/2018 **Solution of Differential Equations solvable for p=dy/dx and examples based on it.**
Week 3, day 3, 17/01/2018 **Equations solvable for x and related examples.**
Week 3, day 4, 18/01/2018 **Exercise and Problems.**
Week 3, day 5, 19/01/2018 **Solution of Differential Equations solvable for y and examples based on it.**

Week 3, day 6, 20/01/2018 **Lagrange's Equation and its solution.**
Week 4 Chapter : **2, 3**
Week 4, day 1, 22/01/2018 **Basant Panchami**
Week 4, day 2, 23/01/2018 **Exercise and Problems based on Lagrange's equation.**
Week 4, day 3, 24/01/2018 **Solution of equations reducible to Clairaut's form and related examples.**
Week 4, day 4, 25/01/2018 **Methods to find singular solution and its examples.**
Week 4, day 5, 26/01/2018 **Republic Day**
Week 4, day 6, 27/01/2018 **Chapter :3 Orthogonal Trajectories.** **Definition of trajectory and orthogonal trajectory, rules to find it and related examples.**
Week 5 Chapter : **3, 4**
Week 5, day 1, 29/01/2018 **Examples and Exercise of orthogonal trajectory.**
Week 5, day 2, 30/01/2018 **Orthogonal trajectory in polar coordinates.**
Week 5, day 3, 31/01/2018 **Guru Ravidas Jayanti**
Week 5, day 4, 01/02/2018 **Exercise and Problems.**
Week 5, day 5, 02/02/2018 **Chapter 4: Linear Differential Equations with Constant Coefficients.** **Introduction to Linear Differential Equations, differential operator, related theorem and definition of complete solution.**
Week 5, day 6, 03/02/2018 **Rules for finding complementary function and examples based on it.**
Week 6 Chapter : **4**
Week 6, day 1, 05/02/2018 **Exercise and Problems.**
Week 6, day 2, 06/02/2018 **Rules for finding particular integral and examples based on it.**
Week 6, day 3, 07/02/2018 **Examples and exercise .**
Week 6, day 4, 08/02/2018 **Method to find Particular integral in some special cases.**
Week 6, day 5, 09/02/2018 **Examples and Problems.**
Week 6, day 6, 10/02/2018 **Maharishi Dayanand Saraswati Jayanti**
Week 7 Chapter : **4**
Week 7, day 1, 12/02/2018 **Rules for finding particular integral in some particular cases.**
Week 7, day 2, 13/02/2018 **Maha Shivaratri**

Week 7, day 3, 14/02/2018 **Examples based on finding particular integral in some particular cases.**
Week 7, day 4, 15/02/2018 **Examples Continued.**
Week 7, day 5, 16/02/ 2018 **Exercise and Problems.**
Week 7, day 6, 17/02/2018 **Finding complete solution of linear differential equations.**
Week 8 Chapter : **4, 5**
Week 8, day 1, 19/02/2018 **Examples based on complete solution of linear differential equations.**
Week 8, day 2, 20/02/2018 **Examples Continued and problems.**
Week 8, day 3, 21/02/2018 **Chapter 5: Homogeneous linear differential equations.** **Introduction to Homogeneous linear differential equations and methods to solve them.**
Week 8, day 4, 22/02/2018 **Examples based on solution of Homogeneous linear differential equations.**
Week 8, day 5, 23/02/2018 **Examples Continued and problems.**
Week 8, day 6, 24/02/2018 **Legendre's linear differential equations and related examples.**
Week 9 Chapter : **5, 6**
Week 9, day 1, 26/02/2018 **Exercise and Problems of Legendre's linear differential equations.**
Week 9, day 2, 27/02/2018 **Chapter 6: Linear differential equations of second order.** **Introduction to Linear differential equations of second order.**
Week 9, day 3, 28/02/2018 **Vacation – I**
Week 9, day 4, 01/03/2018 **Vacation – I**
Week 9, day 5, 02/03/2018 **Vacation – I**
Week 9, day 6, 03/03/2018 **Vacation – I**
Week 10 Chapter : **6**
Week 10, day 1, 05/03/2018 **Solution of Linear differential equations when an integral in the complementary function is known.**
Week 10, day 2, 06/03/2018 **Examples for finding solution.**
Week 10, day 3, 07/03/2018 **Examples continued and Exercise.**
Week 10, day 4, 08/03/2018 **Solution of Linear differential equations by changing the dependent variable.**
Week 10, day 5, 09/03/2018 **Examples for finding solution.**
Week 10, day 6, 10/03/2018 **Examples continued and Exercise.**
Week 11

Chapter : **6**
Week 11, day 1, 12/03/2018 **Exercise and problems.**
Week 11, day 2, 13/03/2018 **Rules for finding solution by changing the independent variable.**
Week 11, day 3, 14/03/2018 **Examples for finding solution by changing the independent variable.**
Week 11, day 4, 15/03/2018 **Examples continued and Exercise.**
Week 11, day 5, 16/03/2018 **Exercise and problems.**
Week 11, day 6, 17/03/2018 **Method of variation of parameters.**
Week 12 Chapter : **6**
Week 12, day 1, 19/03/2018 **Examples for finding solution by variation of parameters.**
Week 12, day 2, 20/03/2018 **Examples continued and Exercise.**
Week 12, day 3, 21/03/2018 **Exercise and problems.**
Week 12, day 4, 22/03/2018 **Method of undetermined coefficients.**
Week 12, day 5, 23/03/2018 **Examples based on Method of undetermined coefficients.**
Week 12, day 6, 24/03/2018 **Examples continued and Exercise.**
Week 13 Chapter : **6, 7**
Week 13, day 1, 26/03/2018 **Exercise and problems based on Method of undetermined coefficients.**
Week 13, day 2, 27/03/2018 **Problem Discussion.**
Week 13, day 3, 28/03/2018 **Conditional Test.**
Week 13, day 4, 29/03/2018 **Mahavir Jayanti**
Week 13, day 5, 30/03/2018 **Chapter 7: Ordinary Simultaneous Differential Equations.** **Finding solution of Ordinary Simultaneous Differential Equations by method of elimination and related examples.**
Week 13, day 6, 31/03/2018 **Exercise and problems.**
Week 14 Chapter : **7**
Week 14, day 1, 02/04/2018 **Finding solution of Ordinary Simultaneous Differential Equations by method of differentiation and related examples.**
Week 14, day 2, 03/04/2018 **Examples continued and Exercise.**
Week 14, day 3, 04/04/2018 **Exercise and problems.**
Week 14, day 4, 05/04/2018

Methods of solving Simultaneous Differential Equations in some particular cases.
Week 14, day 5, 06/04/2018 **Examples based on such methods.**
Week 14, day 6, 07/04/2018 **Exercise and problems.**
Week 15 Chapter : **7, 8**
Week 15, day 1, 09/04/2018 **Method to find a solution with the help of the another known solution and related examples.**
Week 15, day 2, 10/04/2018 **Examples continued and Exercise.**
Week 15, day 3, 11/04/2018 **Exercise and problems.**
Week 15, day 4, 12/04/2018 **Chapter 8: Total Differential Equations** **Introduction to Total Differential Equations and related theorems.**
Week 15, day 5, 13/04/2018 **Solution of Exact Total Differential Equations and related examples.**
Week 15, day 6, 14/04/2018 **Vaisakhi and Dr. B.R. Ambedkar Jayanti**
Week 16 Chapter : **8**
Week 16, day 1, 16/04/2018 **Method to solve Homogeneous Total Differential Equations and related examples.**
Week 16, day 2, 17/04/2018 **Exercise and Problems.**
Week 16, day 3, 18/04/2018 **Solution of Total Differential Equations by use of Auxiliary Equation and examples based on it.**
Week 16, day 4, 19/04/2018 **Exercise and Problems.**
Week 16, day 5, 20/04/2018 **Solution of Total Differential Equations by taking one variable as constant and examples based on it.**
Week 16, day 6, 21/04/2018 **Exercise and Problems.**
Week 17 Chapter :
Week 17, day 1, 23/04/2018 **Revision.**
Week 17, day 2, 24/04/2018 **Revision.**
Week 17, day 3, 25/04/2018 **Revision.**
Week 17, day 4, 26/04/2018 **Revision.**
Week 17, day 5, 27/04/2018 **Revision.**
Week 17, day 6, 28/04/2018 **Revision.**
Week 18 Chapter :
Week 18, day 1, 30/04/2018 **Examinations**
Week 18, day 2, 01/05/2018

Examinations
Week 18, day 3, 02/05/2018 **Examinations**
Week 18, day 4, 03/05/2018 **Examinations**
Week 18, day 5, 04/05/2018 **Examinations**
Week 18, day 6, 05/05/2018 **Examinations**

Lesson Plan

Name of Assistant Professor: Ms. Manju Sharma

Class : B.Sc. III

Paper-Real and Complex Analysis (BM-361)

Subject Lesson Plan: 18 Weeks (From January 2018 to April 2018)

Week 1	**Chapter :1,2**
Week 1,Day 1 01/01/2018	**Chapter 1:Jacobians** Definition of Jacobian, Chain rule for jacobian
Week 1,Day 2 02/01/2018	Theorems based on Jacobians and related examples.
Week 1,Day 3 03/01/2018	Exercise and Problems.
Week 1,Day 4 04/01/2018	Definition of Functional dependence and examples based on it.
Week 1,Day 5 05/01/2018	Holiday Guru Gobind Singh Birthday
Week 1,Day 6 06/01/2018	**Chapter 2:Beta and Gamma functions** Definition of Beta function, Properties of Beta function, Another form of Beta function.
Week 2	**Chapter :2**
Week 2,Day 1 08/01/2018	Examples based on Beta function.
Week 2,Day 2 09/01/2018	Exercise and Problems.
Week 2,Day 3 10/01/2018	Definition of Gamma function, Recurrence formula for Gamma function, Relation between Beta and Gamma function.
Week 2,Day 4 11/01/2018	Related examples.
Week 2,Day 5 12/01/2018	Duplication formula, Related results
Week 2,Day 6 13/01/2018	Lohri Celebration
Week 3	**Chapter :2,3**
Week 3,Day 1 15/01/2018	Examples based on Duplication formula
Week 3,Day 2 16/01/2018	Exercise and Problems.
Week 3,Day 3 17/01/2018	**Chapter :3 Double and Triple integral** Definition of double integral, Evaluation of double integral, Related examples
Week 3,Day 4 18/01/2018	Examples continue
Week 3,Day 5 19/01/2018	Substitution method for double integral and related examples.
Week 3,Day 6 20/01/2018	Exercise and Problems.

Week 4	**Chapter :3**
Week 4,Day 1 22/01/2018	Triple Integral and related examples
Week 4,Day 2 23/01/2018	Substitution method for triple integral and related examples.
Week 4,Day 3 24/01/2018	Exercise and Problems.
Week 4,Day 4 25/01/2018	Application of double and triple integral for finding area and volume of surfaces.
Week 4,Day 5 26/01/2018	Related examples.
Week 4,Day 6 27/01/2018	Dirchlet's integral, Liouvill's extension of Dirchlet's integral.
Week 5	**Chapter :3,4**
Week 5,Day 1 29/01/2018	Related examples.
Week 5,Day 2 30/01/2018	Exercise and Problems.
Week 5,Day 3 31/01/2018	Change of order of integration, Related examples.
Week 5,Day 4 01/02/2018	Continue
Week 5,Day 5 02/02/2018	Exercise and Problems
Week 5,Day 6 03/02/2018	**Chapter:4 Fourier Series** Def. of Even functions, Odd functions, Periodic functions, Trignometric series, some results on integrals, Piecewise monotonic functions.
Week 6	**Chapter:4**
Week 6,Day 1 05/02/2018	Def. of Fourier Series, Euler's formulae
Week 6,Day 2 06/02/2018	Fourier Series for even and odd functions, Dirchlet's integral.
Week 6,Day 3 07/02/2018	Related theorems.
Week 6,Day 4 08/02/2018	Fourier expansion of piecewise monotonic continuous functions
Week 6,Day 5 09/02/2018	Related examples
Week 6,Day 6 10/02/2018	Exercise and Problems.
Week 7	**Chapter:4**
Week 7,Day 1	Fourier expansion of functions having points of discontinuity and related examples

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Week 7,Day 2 13/02/2018	Maha Shivratri
Week 7,Day 3 14/02/2018	Continue
Week 7,Day 4 15/02/2018	Exercise and Problems
Week 7,Day 5 16/02/2018	Change of interval and examples based on it.
Week 7,Day 6 17/02/2018	Continue
Week 8	**Chapter:4 ,5**
Week 8,Day 1 19/02/2018	Sine Series, Cosine Series, Related examples.
Week 8,Day 2 20/02/2018	Continue
Week 8,Day 3 21/02/2018	Parseval's identity for Fourier Series, Related examples.
Week 8,Day 4 22/02/2018	Exercise and Problems.
Week 8,Day 5 23/02/2018	**Chapter:5 Calculus of Complex Functions** Stereographic projection of complex numbers.
Week 8,Day 6 24/02/2018	Related examples.
Week 9	**Chapter:5**
Week 9,Day 1 26/02/2018	Exercise and Problems.
Week 9,Day 2 27/02/2018	Limit of a complex function, Examples based on it, Continuity of complex function.
Week 9,Day 3 28/02/2018	Uniform Continuity, Diffreentiability of complex function and related examples.
Week 9,Day (4-6) (01/03/2018- 03/03/2018)	Holidays
Week 10	**Chapter:5**
Week 10,Day 1 05/03/2018	Rule of differentiation and related examples. Geometric interpretation of the derivative.
Week 10,Day 2 06/03/2018	Exercise and Problems.
Week 10,Day 3 07/03/2018	Definition of Analytic Function. Cauchy-Riemann equations.
Week 10,Day 4 08/03/2018	Examples based on it
Week 10, Day 5 09/03/2018	Sufficient conditions for f(z) to be analytic.
Week 10,Day 6	C-R equations in polar form related theorems and examples.

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Week 11	**Chapter:5**
Week 11, Day 1 12/03/2018	Def. of Orthogonal system, Harmonic functions and examples
Week 11, Day 2 13/03/2018	Continue
Week 11, Day 3 14/03/2018	Construction of an Analytic Function Milne's Thomson's method and examples based on it
Week 11,Day 4 15/03/2018	Exact Differential Method and related examples.
Week 11,Day 5 16/03/2018	Continue
Week 11,Day 6 17/03/2018	Continue
Week 12	**Chapter:5,6**
Week 12,Day 1 19/03/2018	Application of Analytic Functions to field and flow problems.
Week 12,Day 2 20/03/2018	Continue
Week 12,Day 3 21/03/2018	Exercise and Problems
Week 12,Day 4 22/03/2018	**Chapter:6 Elementary functions and Mobius Transformation** Mapping by elementary functions, Some elementary mappings. Translation and related examples.
Week 12,Day 5 23/03/2018	Rotation, Magnification and examples based on it
Week 12,Day 6 24/03/2018	Rotation and Magnification and examples based on it
Week 13	**Chapter:6**
Week 13,Day 1 26/03/2018	Continue
Week 13,Day 2 27/03/2018	Exercise and Problems
Week 13,Day 3 28/03/2018	Sessional
Week 13,Day 4 29/03/2018	Holiday

Week 13,Day 5 30/03/2018	Conformal Mapping, Theorems based on it
Week 13,Day 6 31/03/2018	Def. of Coefficient of Magnification and Angle of rotation and examples based on it, Linear Transformation,Bilinear Transformation
Week 14	**Chapter:6**
Week 14,Day 1 02/04/2018	Def. of Critical Points and Fixed Points, Theorems
Week 14,Day 2 03/04/2018	Nature of Mobius Transformation, Examples and theorems based on Mobius Transformation
Week 14,Day 3 04/04/2018	Continue
Week 4,Day 4 05/04/2018	Def. of Cross Ratio, Inverse points and theorems.
Week 14,Day 5 06/04/2018	Continue
Week 14,Day 6 07/04/2018	Related Examples
Week 15	**Chapter:6 ,7**
Week 15,Day 1 09/04/2018	Continue
Week 15,Day 2 10/04/2018	Exercise and Problems
Week 15,Day 3 11/04/2018	**Chapter :7 Critical Mappings** Exponential Transformation, Logarithmic Transformation,
Week 15,Day 4 12/04/2018	Trignometric Transformation
Week 15,Day 5 13/04/2018	Continue
Week 15,Day 6 14/04/2018	Baisakhi ,Ambedkar jayanti
Week 16	**Chapter:7**
Week 16,Day 1 16/04/2018	Linear Fractional Transformation
Week 16,Day 2 17/04/2018	Related examples
Week 16,Day 3 18/04/2018	Continue
Week 16,Day 4 19/04/2018	Continue
Week 16,Day 5 20/04/2018	Some more mappings
Week 16,Day 6 21/04/2018	Exercise and Problems

Week 17	
Week 17,Day 1 21/04/2018	Revision
Week 17,Day 2 23/04/2018	Revision
Week 17,Day 3 24/04/2018	Revision
Week 17,Day 4 25/04/2018	Revision
Week 17,Day 5 26/04/2018	Revision
Week 17,Day 6 27/04/2018	Revision